

Transportation Equipment Management Center Newsletter

Are you using the right fuel in your vehicle ?

Have you ever wondered why there are so many different grades of gasoline at the pumps these days? Gasoline is classified by their "octane" rating. But, what does the octane rating mean? Octane rating is used to rate the volatility of gasoline. The lower the rating, the easier it is for the gasoline to burn. It is based on the gasoline's ability to resist pre-ignition, or engine knock. Gasoline is a hydrocarbon fuel made up of many carbon and hydrogen atoms chained together. Two of these *chains* are isooctane and n-heptane. These two compounds are used to rate the knock resistance of all gasoline blends. Gasoline that is a mixture of 87% isooctane and 13% n-heptane would be rated at 87 octane. The octane ratings for regular-grade fuel range from 85 to 87, midgrades 88 to 90, and 91 and higher are premium. All octane does is prevent knock. There is no benefit in using a higher grade of gasoline than recommended by the vehicle manufacturer. The newer fuel injected and computer controlled vehicles have inbuilt adjustments for the most efficient burning of the air fuel mixture. Fuel grade requirements are set by the engine design, which operate at optimum settings. Premium fuel does not necessarily pack more energy content than does regular, and will have little or no effect on the performance of the vehicle.

A recently conducted audit of the Fleet Credit Card Program (FCC) indicated a large number of unnecessary fuel purchases, by as much as \$160,000, for premium grade gasoline. In accordance with Federal Management Regulation 41 CFR 102-34.335, motor vehicle operators should only use the grade of fuel recommended by the motor vehicle manufacturer, and not use premium fuel unless the motor vehicle specifically requires premium grade gasoline. Operators are encouraged to utilize self-service fuel pumps to the fullest extent possible to minimize the cost of fuel purchases.

Based on this information, the following guidelines are issued to drivers;

- a. If the vehicle you are driving is a bi-fuel vehicle (operates on gasoline and/or an alternative fuel), purchase the alternative fuel as a first choice.
- b. If the alternative fuel is unavailable, use the lowest grade of gasoline recommended by the vehicle manufacturer.
- c. Always use self-service pumps vice full service pumps, if available.

As of October 2003, the Navy eBusiness Operations Office at Mechanicsburg, PA, has assumed oversight of the FCC program. A new Navy eBusiness Office Instruction outlining use of the FCC is in the process of being written. This instruction will be published as a separate, stand-alone document and will be incorporated into the NAVFAC P-300 (Management of Civil Engineering Support Equipment). The new eBusiness Office Instruction is scheduled to be published by 30 March 2004.